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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,135	01/21/2005	Douglas Wilbert Paul Smith	SM-01	6155

50285 7590 01/03/2007
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EXAMINER

NGUYEN, HOANG M

ART UNIT	PAPER NUMBER
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3748

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/523,135

Applicant(s)

SMITH, DOUGLAS WILBERT
PAUL

Examiner

Hoang M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Applicant's amendment dated November 21, 2006, has been fully considered.

Applicant has amended the claims to include a new limitation "single continuous stream" and argued the applied reference does not disclose the claimed invention. The Examiner agrees. However, a new ground of rejection has been made based on newly discovered reference from further searches.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5664419 (Kaplan).

Kaplan discloses an organic Rankine cycle using organic fluid which has multi-components comprising an organic turbine 27, a recuperator 32, a condenser 32, a pump for pumping fluid back in the counter-flow heat exchange with turbine exhaust, a preheater 22, a vaporizer 18, then return to the turbine 27.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US 5664419 (Kaplan) in view of US 4548043 (Kalina). Kaplan teaches all the claimed subject matter as set forth above in the rejection of claim 1, but still does not teach that the fluid comprising ammonia and water. Kalina teaches it's well known to use multi-component fluid using ammonia and water. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the multi-component fluid having ammonia and water in Kaplan as taught by Kalina for the purpose of achieving appropriate power output based on the characteristics of the fluid.

Claims 10-17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US 7007453 (Maisotsenko et al) in view of US 4548043 (Kalina). Maisotsenko et al discloses in figure 11 a system which can be a Kalina cycle comprising a continuous stream of working fluid flowing from a turbine 300 to a condenser 202, to a recuperator 201, back to an evaporator 205, a pump 203, but still does not teach the turbine exhaust is in counter flow heat exchanging with the return line from the pump. Kalina teaches a method/apparatus for producing power comprising a feed pump 51, a recuperator 56, a heater/superheater 68, 70, 72, turbine 74, 76, a condenser 52, note there are many cooling stages, inside the recuperator 56, then through the heat exchanger 54 with another fluid source 59, and inside the condenser 52 with another fluid source through 47, 48, all fluid are in counter flow direction with the working fluid. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the recuperator as a counter-flow heat exchanger in

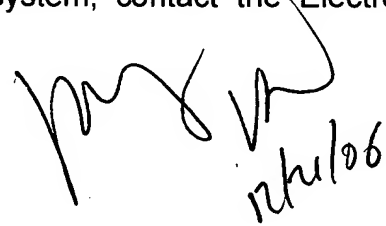
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Maisotsenko et al as taught by Kalina for the purpose of heating/cooling the fluid at least twice to improve the efficiency.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Examiner Nguyen whose telephone number is (571) 272-4861. The examiner can normally be reached on Tuesday--Friday from 12:30 AM to 10:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on 571-272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Handwritten signature of Hoang Minh Nguyen, with the date 12/21/06 written below it.

HOANG NGUYEN
PRIMARY EXAMINER
ART UNIT 3748

Hoang Minh Nguyen
12/21/2006